

DEP- Lead and Copper

Identifying Sites for Lead and Copper Sampling and Preparing a Sampling Plan and Materials Survey

Sources of Information that Should be Reviewed

PWSs should survey all records documenting the materials used to construct and repair the distribution system and buildings connected to the distribution system. Relevant information can be attained through the following sources:

- Building Permits
- Plumbing Codes;
- Plumbing Permits
- Distribution Maps and Drawings;
- Inspection and Maintenance Records;
- Meter Installation Records;
- Capital Improvement and Master Plans;
- Standard Operating Procedures;
- Operation and Maintenance Manuals;
- Permit Files;
- Existing Water Quality Data;
- Interviews with Senior Personnel, Building Inspectors, and Retirees; and
- Community Survey.

DEP *recommends* that you identify (50% - 100%) more sampling sites than the number of samples you are required to collect during each monitoring period, in case volunteers drop out or the plumbing is changed in the building.

For example, if you serve 3,301 to 10,000 people, you are required to collect 40 tap water samples during each of (at least) two consecutive, 6-month monitoring periods. You should try to maintain a list of about 60 to 80 sampling sites that meet the Tier 1 targeting criteria. If you cannot identify 60 to 80 sites meeting the Tier 1 targeting criteria, then you should complete your list with sites meeting Tier 2 criteria, followed by those meeting Tier 3 criteria (for CWSs only). If you do not have enough Tier 1, 2, and 3 sites, the LCRMR clarifies that you must complete your sampling pool with representative sites. A site is representative if its plumbing is similar to that of other sites in your system. DEP encourages you to use sites with copper plumbing installed after 1988 when Massachusetts implemented the lead ban, provided these sites can be considered representative.

If your system contains lead service lines, then, if possible, half of the required sampling sites should be homes served by a lead service line.

For example a medium sized system should include 20 sites that are served by a lead service line, and should try to maintain a list of about 30 to 40 sampling sites served by lead service lines to ensure access to enough sites.

If your system is a non-transient non-community system

The preamble of the LCRMR also clarifies that you may need to collect more than one sample from the same location, on different days, in order to meet your minimum sampling requirements. For example, if you are required to collect a minimum of five samples, but you only have one sampling site, you must collect five samples from this sampling site on different days.

Use the attached three worksheets for organizing the information collected during the materials evaluation:

- Worksheet 1: Materials Survey Investigation Results
- Worksheet 2: Materials Survey Results by Number of Service Connections for each Plumbing Materials Type
- Worksheet 3: Summary of Materials Survey Results

These worksheets can help you determine the sites that contain the highest priority materials. **You must send the worksheets to the DEP if all your sites are not Tier 1 sites.** In addition, you may want to conduct some site surveys to be sure you have identified sites with lead.

If You Cannot Find Enough Sampling Sites with High Risk (Tier 1)

If you are unable to collect all your samples from Tier 1 sites, then you must follow the procedures discussed below **and submit a copy of your materials evaluation worksheet to the DEP:**

- When a sufficient number of Tier 1 sites do not exist or are inaccessible, you should complete your sampling pool with Tier 2 sites and submit a copy of your material evaluation worksheet to DEP for review.
- For CWSs, when a sufficient number of Tier 1 and 2 sites do not exist or are inaccessible, you should complete your sampling pool with Tier 3 sites.
- According to the LCRMR, any water system that cannot complete its sampling at sites that meet the applicable tiering criteria must complete sampling at representative sites throughout the distribution system.
- You are not required to target buildings with lead solder installed after 1988, the effective date that the lead ban was adopted in Massachusetts.
- You should not monitor at sampling sites that have water softeners; however, if all of your available sampling sites have water softeners, you should identify the highest risk sites (Tier 1) and monitor at those locations (such as a kitchen or bathroom tap).
- If you are not able to draw at least half of your samples from taps served by lead service lines, you must collect a sample from each site that is served by a lead service line.

For example, a system serving 3,301 to 10,000 people does not qualify for reduced monitoring and is required to collect tap water samples from a total of 40 sites, 20 of which must be from sites served by a lead service line. If, after reviewing all of the records listed on the previous page, the system can identify only 12 sites served by a lead service line, it must collect a tap water sample from each of those sites. The remaining 28 samples would be collected from other Tier 1 sites. If an insufficient number of Tier 1 sites are available, the system must use Tier 2 sites, followed by Tier 3 sites, and lastly by representative sites.

- If you have no lead service lines, but you have lead goosenecks or pigtails, you can collect tap water samples at the sites with the goosenecks and/or pigtails.

All PWS must complete and submit the DEP sampling plan for review and approval. If there are subsequent changes to the sampling plan because of changes in plumbing etc. the PWS must submit a revised sampling plan for approval. **The sampling plan form** is available at the DEP website at www.mass.gov/dep/brp/dws/dwsforms.htm under Water Quality Monitoring.

Please note the use of alternate sites that are already identified on the DEP approved sampling plan require additional approval just prior to use. To obtain this additional approval prior to the use of an alternate site the must complete and submit to the DEP the alternate sites form. **The alternate sampling site approval form** is available at www.mass.gov/dep/brp/dws/dwsforms.htm under Water Quality Monitoring.

MADEP-DRINKING WATER PROGRAM

LEAD AND COPPER MATERIAL SURVEY
INVESTIGATION WORK SHEET 1 of 3*Please type or print clearly using black ink*

PWS ID #: _____ PWS Name: _____ City/Town: _____ Date: _____

PWS Address: _____

Contact person name: _____ Telephone #: (____) _____ Population: _____ Samples required: _____

Type of structure	Location	Contact Person		Lead Service Line (LSL)	Type of Home Plumbing Material	Material Verified?	Did Owner Volunteer?	Selected		Received Training Material?
		Name	Phone # /email					Routine	Alternate	

Note: If you cannot identify and secure all Tier 1 sites in your minimum lead and copper sampling plan you must return the material survey worksheets 1-3 with your lead and copper sampling plan to the DEP for review and approval.

If you are required to submit this form to DEP please complete the certification block below:

My signature below indicates that sufficient Tier 1 sites were not available and that I have provided DEP with a "materials survey". I certify under penalty of law that I am the person authorized to fill out this form and the information contained herein is true, accurate and complete to the best of my knowledge and belief.

Signature of authorized public water system party: _____ Date: ____/____/____

Name of authorized party (PRINT): _____ Title: _____

Telephone #: _____ Mobile/cell #: _____ Fax #: _____ Email Address: _____

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MADEP-DRINKING WATER PROGRAM

LEAD AND COPPER MATERIAL SURVEY
INVESTIGATION WORK SHEET 2 of 3*Please type or print clearly using black ink*

PWS ID #: _____ PWS Name: _____ City/Town: _____ Date: _____

PWS Address: _____

Contact person name: _____ Telephone #: (____) _____ Population: _____ Samples required: _____

Type of Structure	Type of Plumbing Material					
	Interior Plumbing				Distribution System Lead Service Connections	
	# of Residences/ Buildings with Lead Pipes	# of Residences/ Buildings with Copper Pipes and Lead Solder Built Before 1983	# of Residences/ Buildings with Copper Pipes and Lead Solder Built in 1983-1985	# of Residences/ Buildings with Copper Pipes and <u>Verified Lead Solder</u> Built After 1985.	# of Lead Service Lines Connections Total	
					Entire Line-100% Lead	Partial Lead Line
SFRs ¹						
MFR ²						
BLDGs ³						
TOTAL						

1. SFR-Single family residence

2. MFR-Multi-family residence

3. BLDG-Public /Commercial Building

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MADEP-DRINKING WATER PROGRAM
LEAD AND COPPER MATERIAL SURVEY
INVESTIGATION WORK SHEET 3 of 3

Please type or print clearly using black ink

PWS ID #: _____ PWS Name: _____ City/Town: _____ Date: _____

PWS Address: _____

Contact person name: _____ Telephone #: (____) _____ Population: _____ Samples required: _____

PLUMBING MATERIAL	TYPE OF STRUCTURE		
	# of service connections that are Single Family Residences (SRF)	# of service connections that are Multiple family Residences (MFR)	# of service connections that are public or commercial buildings (BLDG)
Interior Plumbing			
Lead Pipe			
Copper pipe with lead solder installed before 1983			
Copper pipe with lead solder installed in 1983 -1985			
Copper pipe with verified lead solder installed after 1985			
Service Lines			
LSLs			
Entire Line			
Partial Line			
Total Available Sites			

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Telephone #: _____ **Mobile/cell #:** _____ **Fax #:** _____ **Email Address:** _____ **Page** ____ **of** ____